Environmental Guidance Regulatory Bulletin

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DEFERRAL OF LDR TREATMENT STANDARDS FOR PCBs IN CERTAIN SOILS

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INTRODUCTION

On December 26, 2000, the U.S. Environmental Protection Agency (EPA) temporarily deferred the portions of the Resource Conservation and Recovery Act (RCRA) land disposal restrictions (LDR) regulations that define polychlorinated biphenyls (PCBs) as constituents subject to treatment (CSTs)[1] in certain soils (65 FR 81373 - 81381). Specifically, the rule temporarily defers the universal treatment standards (UTS) for PCBs in soils exhibiting the toxicity characteristic (TC) for metals.

During the temporary deferral, achieving compliance with LDR treatment standards for soils exhibiting the TC for metals will not require treatment to remove PCBs, or to reduce the mobility or toxicity of PCBs. However, these soils still must be treated to meet applicable LDR treatment standards for non-PCB constituents, as appropriate. In addition, the total concentration of halogenated organic compounds, including PCBs, allowed in soils exhibiting the TC for metals that will be land disposed is capped at 1,000 parts per million (ppm).

This Regulatory Bulletin summarizes the final rule and discusses potential effects of the temporary deferral on DOE environmental restoration activities.

BACKGROUND

Contaminated soils excavated during a remedial action, whether it is conducted under RCRA, Superfund, or state authority, are subject to the LDR requirements when the soil contains listed hazardous waste, or exhibits a hazardous characteristic, and when it is excavated outside of a corrective action management unit (CAMU) or area of contamination (AOC). Before May 1998, hazardous contaminated soil subject to the LDR program had to be treated to meet the same treatment standards that apply to hazardous waste generated by industrial processes. Accordingly, soils contaminated by listed hazardous wastes were subject to the standards that applied to the contaminating listed wastes, and soils that exhibited a characteristic of hazardous waste were subject to the standards that apply to hazardous process wastes exhibiting the same characteristic. Notwithstanding, EPA recognized that this regulatory structure was creating disincentives to excavation/ex situ treatment of soils generated during remedial activities. Therefore, in May 1998, EPA established a new treatability group—contaminated soils—and set up alternative LDR treatment standards specifically tailored to that treatability group (63 FR 28556; May 26, 1998). This rule provided generators and/or treaters of hazardous contaminated soils with the option to comply either with LDR treatment standards applicable to hazardous wastes generated by industrial processes or the alternative standards for contaminated soils.

The alternative LDR treatment standards for contaminated soils require that, prior to land disposal, all CSTs must be treated to achieve 90 percent reduction in total non-metal constituent concentrations. In addition, all metal CSTs must be treated to achieve either 90 percent reduction in constituent concentrations measured in leachate from

[1] A *constituent subject to treatment* is defined in 40 CFR 268.49(d) as any hazardous constituent listed in 40 CFR 268.48 that is reasonably expected to be present in contaminated soil, and is present at levels exceeding 10 times the universal treatment standard (UTS) for that constituent. PCBs are among the constituents listed in 40 CFR 268.48 for which UTSs are established. This final rule defers the UTS for PCBs in soils exhibiting the TC for metals.

the treated media (tested according to the toxicity characteristic leaching procedure (TCLP)), or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used). However, if treatment to meet a 90 percent reduction standard would result in a concentration less than 10 times the UTS for any non-metal or metal CST, then such treatment is not required. Instead, treatment is required only to reduce the CST to a concentration of 10 times the UTS (40 CFR 268.49(c)(1)).

Treatment of soil exhibiting the TC for metals to meet the LDR treatment standards applicable to industrial hazardous wastes would require immobilization or removal of the metal constituents so the TCLP extract would not exceed concentrations specified in the table, "Treatment Standards for Hazardous Wastes," in 40 CFR 268.40. In addition, the soil would have to be treated so that no UHCs[2] would exceed their UTS concentrations in the TCLP extract. In some hazardous contaminated soils exhibiting the TC for metals, PCBs may be among the UHCs. In those cases, combustion treatment is likely to be necessary to reduce the concentration of PCBs, because the UTS concentration for PCBs (i.e., 10 mg/kg) was established based on treatment using combustion technology (63 FR 28556, 28603; May 26, 1998).

In contrast, the alternative LDR treatment standards for contaminated soils would only require that soil exhibiting the TC for metals and containing PCBs be treated to reduce total PCBs to 100 mg/kg (i.e., 10 times the UTS), or to reduce total PCB concentrations in the soil by 90 percent, whichever level is higher (i.e., less stringent). EPA found that generators could achieve the alternative standards without applying combustion technology, although treatment technologies involving the application of heat (e.g., thermal desorption technology) were often required. When EPA adopted the alternative treatment standards, the Agency believed the more lenient standards would encourage the use of exhumation and treatment to remediate contaminated soils (65 FR 81374).

RATIONALE FOR THE TEMPORARY DEFERRAL

In 1999, EPA became aware that the alternative LDR treatment standards for contaminated soils were not having the effect that the Agency intended in cases involving the cleanup of soils exhibiting the TC for metals and also containing PCBs (65 FR 81375). In certain cases, the requirement to treat PCBs in such soils even seemed to be causing the delay or halt of soil remediation. In addition, the following issues arose:

(1) How to best integrate the RCRA LDR treatment requirements for PCBs with cleanup requirements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and under the RCRA corrective action and closure provisions; and

(2) How to resolve inconsistencies between RCRA LDR treatment standards and PCB disposal requirements under the Toxic Substances Control Act (TSCA).

Consequently, EPA concluded that, until further investigation is completed, it is appropriate to temporarily defer the LDR treatment requirement for PCBs in soils exhibiting the TC for metals.

CONTENTS OF THE FINAL RULE

To implement the temporary deferral granted by this final rule, EPA promulgated changes to the LDR regulations. The scope of these changes is exclusive to the treatment standards applicable to soils exhibiting the TC for metals and containing PCBs. The affected LDR regulations include the waste-specific prohibitions on land disposal, the UTS table, and the alternative LDR treatment standards for contaminated soil.

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[2] *Underlying hazardous constituent* (UHC) means any constituent listed in §268.48, Table UTS—Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste at a concentration above the constituent-specific UTS [40 CFR 268.2(i)].

Prohibition on Land Disposal of Soils Exhibiting the TC for Metals and Containing PCBs (40 CFR 268.32).

RCRA Section 3004(d)(2)(E), a component of the so-called California List provision,[3] prohibits land disposal of hazardous wastes that contain halogenated organic compounds (HOCs) at concentrations equal to or exceeding 1,000 ppm. Although this statutory requirement was incorporated into the LDR regulations at one point, it was eventually superseded by more specific prohibitions and treatment standards. In the case of PCBs, which are a type of HOC, EPA promulgated specific concentration levels applicable to hazardous wastes and contaminated soils exhibiting the TC for metals in May 1998 (63 FR 28556; May 26, 1998). As explained above, the May 1998 final regulations established LDR treatment standards for PCBs in TC metal soils as being a 90 percent reduction in total PCB concentrations, capped at 10 times the UTS. Accordingly, by temporarily deferring the UTS for PCBs in soils exhibiting the TC for metals, the final rule covered by this Regulatory Bulletin defers the May 1998 LDR treatment standards for PCBs in such soils. Thereby, reinstatement of the RCRA Section 3004(d)(2)(E) prohibition on land disposal is triggered if the soils contain 1,000 ppm or more of HOCs that include PCBs (65 FR 81374). If PCBs are the only HOCs present, then these soils are prohibited from land disposal if they contain 1,000 ppm or more of PCBs.

The final rule promulgates the reinstated prohibition on land disposal of soils exhibiting the TC for metals and containing PCBs in a new regulatory section, 40 CFR 268.32 (65 FR 81380). According to this new regulation, these soils are prohibited from land disposal, unless one of the following situations exists:

(1) The soils contain HOCs in total concentration less than 1,000 ppm, and the soils meet the treatment standards in 40 CFR 268, subpart D, for EPA hazardous waste numbers D004 through D011, as applicable; or

(2) The soils contain HOCs in total concentration less than 1,000 ppm, and the soils meet the alternative treatment standards for contaminated soil in 40 CFR 268.49; or

(3) A "no migration" variance from the prohibition has been granted pursuant to 40 CFR 268.6; or

(4) The soils meet applicable alternative treatment standards established pursuant to a variance granted under 40 CFR 268.44.

To assist in determining the concentration of HOCs present in soils subject to the reinstated prohibition on land disposal, the final rule adds Appendix III to 40 CFR Part 268. Appendix III lists the HOCs that must be included when calculating the total concentration of HOCs present in affected soils. The list contains 106 HOCs, including 8 PCBs.

Temporary Deferral of the UTS for PCBs in Soils Exhibiting the TC For Metals (40 CFR 268.48(a) Table UTS.

The final rule adds footnote 8 to the UTS table in 40 CFR 268.48(a) (65 FR 81381). This footnote indicates that the UTS for PCBs is temporarily deferred for soils with hazardous waste codes D004 through D011 (i.e., soils exhibiting the TC for metals). In this way, the final rule temporarily modifies the constituents requiring treatment, whether the affected soils will be treated to meet the LDR treatment standards for hazardous wastes generated by industrial processes or the alternative standards for contaminated soils. If the LDR treatment standards for hazardous waste generated by industrial processes will be applied, footnote 8 temporarily eliminates the requirement to treat PCBs as UHCs in soils exhibiting the TC for metals. Similarly, if the alternative LDR treatment standards for contaminated soils will be applied, footnote 8 temporarily eliminates the requirement to treat PCBs as CSTs in such soils.

[3] The California list provision required EPA to restrict land disposal of hazardous wastes containing specified constituents above certain concentrations. The specified constituents, which included PCBs, were called California list constituents because they originally were identified in state regulations restricting land disposal in California of hazardous wastes containing such constituents.

Exclusion of PCBs From the Definition of CSTs in Soils Exhibiting the TC For Metals (40 CFR 268.49).

In addition to temporarily deferring the UTS for PCBs in soils exhibiting the TC for metals, as described above, the final rule specifically excludes PCBs from the definition of CSTs in cases where the alternative LDR treatment standards for contaminated soils will be applied. This regulatory change clarifies EPA's intention that, during the temporary deferral, the alternative LDR treatment standards for contaminated soil do not require soils exhibiting the TC for metals to be treated for PCBs, provided the total concentration of HOCs is less than 1,000 ppm.

EFFECTS OF THE FINAL RULE ON DOE WASTE MANAGEMENT ACTIVITIES

As described above, the scope of this final rule is limited to contaminated soils exhibiting the TC for metals and containing PCBs. Evidence indicates that cleanups at some DOE sites may generate soils with these characteristics. The final rule should simplify management of such soils. Specifically, the temporary deferral allows these soils to be land disposed without considering PCBs to be CSTs or UHCs for the purpose of complying with LDR treatment standards. Instead, during the deferral period, the PCBs in these soils will be regulated by TSCA requirements (in existing 40 CFR 761.61(a)),[4] the reinstated RCRA California List provisions (in new 40 CFR 268.32), and any applicable State and local requirements. In addition, the soils must still be treated before land disposal to meet LDR treatment standards with respect to all other hazardous constituents that are CSTs or UHCs. This approach to regulating PCBs in soils, which was in practice before promulgation of the LDR Phase IV Rule, has been reinstated until EPA completes its investigation of how to best integrate RCRA LDR treatment standards with other applicable requirements.

STATE AUTHORIZATION

In general, States are not required to revise their previously authorized LDR programs to incorporate new Federal provisions, unless the new Federal provisions are more stringent than existing Federal requirements. EPA considers the final rule deferring LDR treatment standards for PCBs as CSTs in soils exhibiting the TC for metals as less stringent than existing Federal requirements (65 FR 81376). Accordingly, the States are not required to modify their LDR programs to incorporate the deferral. Furthermore, because the deferral is less stringent, it will not take effect in any State with an authorized LDR program unless and until the State modifies its program. Nevertheless, EPA will implement the deferral in any State that currently is without an authorized LDR program.

Questions of policy or questions requiring policy decisions will not be dealt with in EH-413 Regulatory Bulletins unless that policy has already been established through appropriate documentation. Please refer any questions concerning the subject material covered in this Regulatory Bulletin to:

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[4] In part, 40 CFR 761.61(a) allows "bulk PCB remediation wastes," including soils containing 50 ppm or more PCBs to be disposed without treatment in a TSCA disposal facility or a RCRA subtitle C landfill.